

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of Docket No: Q91600

Takeshi INABA

Serial No.: 10/560,910 Art Unit: 1794

Filed: December 16, 2005

Examiner: ELLEN S. WOOD

Title: LAMINATED RESIN FORMED BODY, METHOD FOR PRODUCING
LAMINATED RESIN FORMED BODY, AND MULTILAYER ARTICLE

DECLARATION UNDER RULE 132

Honorable Commissioner of Patents and Trademarks,
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Takeshi Inaba, a citizen of Japan and having
postal mailing address of c/o DAIKIN INDUSTRIES, Ltd.,
Yodogawa Plant. 1-1, Nishihitotsuya, Settsu-shi, Osaka
566-8585 JAPAN, declare and say that:

I was graduated from Ritsumeikan University, Faculty
of Science and Engineering, Department of Chemical in
March 1986 and received a Master Degree in Engineering
in March 1988.;

I am one of the inventors of the above-identified
application and familiar with the subject matter thereof;

I have read the Official Action mailed and the
references cited therein and I am familiar with the
subject matter thereof;

I respectfully submit herewith my exact report

thereon.

The following experiments were conducted by me or under my direct supervision.

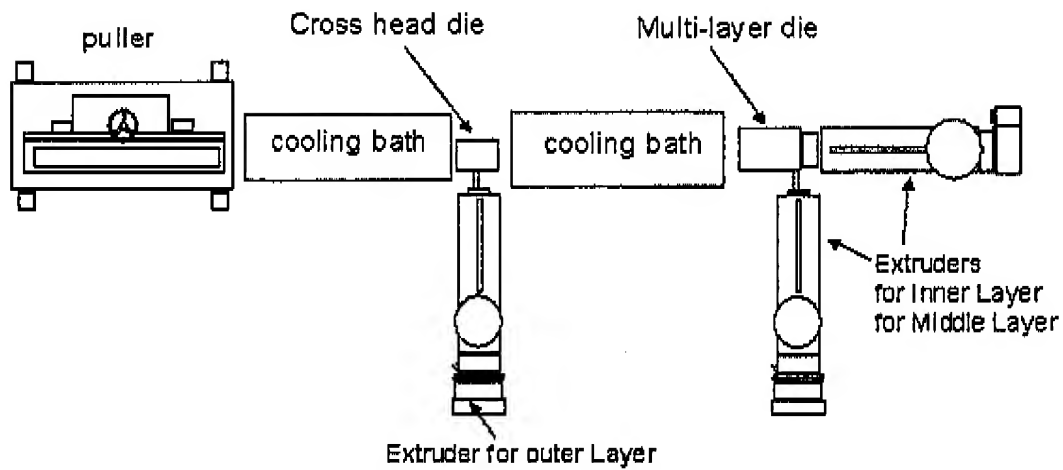
Example 31 demonstrates that, in sequential extrusion, because the outer layer is extruded on a non-melted and cooled layer, the bonding strength is insufficient.

Example 31

Using a two-resin two-layer coextruding machine equipped with the multi-layer die, the first tube with the intermediate layer and the inner layer was continuously molded by feeding the polyamide-based resin and fluorine-containing ethylenic polymer specified in Table 7 to the extruders for middle layer and inner layer, respectively. Then, the first tube was conveyed through cooling bath to the cross head die.

The thermoplastic resin was extruded onto a surface of the first tube by feeding the thermoplastic resin specified in Table 7 to the extruder for outer layer to give the second tube. Then, the second tube was conveyed through cooling bath to the puller.

Figure 1



The molding condition and the result of evaluation of the tube obtained are shown in Table 7.

Table 7

		Experiment Example
		31
Outer layer thermoplastic polymer		TPU1
Intermediate layer resin		PA-E
Inner layer resin		F-A
Cylinder temperature (°C)	Outer layer	210
	Intermediate layer	210
	Inner layer	210
Die temperature (°C)		235
Tube takeoff speed (m/min)		6
Each layer thickness (mm)	Outer layer	1.0
	Intermediate layer	0.2
	Inner layer	0.3
Tube diameter (mm)		10
Adhesive strength (N/cm)	Outer layer/intermediate layer	Separated by hand
	Intermediate layer/inner layer	-

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed this ²⁷~~26~~th day of Nov., 2009

Takeshi Inaba

Takeshi Inaba